, Deci	DATION FOD	PATENT APPLICA	TION AND APPOIN	TMENT ()		ET No : QED1-0001-1
	d inventor, I here the original, firs w) of the subject r r-BASED NUMER	by declare that my reside t and sole inventor (if of matter which is claimed	lence, post office addre nly one name is listed t and for which a patent	ss and citize celow) or an is sought or	nship are as st original, first the invention	ated below next to and joint inventor (if
		as Application Serial	l No	. and was	amended on	Cit
applicable).						
was filed on	(if applicable	as International A	Application (PCT) No). 	, and	d was amended or
I hereby state that I have re any amendment(s) referred application in accordance w United States Code § 119 of foreign application for pater	to above. I acle with <i>Title 37, Code</i> of any foreign app	knowledge the duty to e of Federal Regulation lication(s) for patent or tificate having a filing	disclose information ns. § 1.56(a) I hereby inventor's certificate li	which is me claim foreit sted below	naterial to the gn priority bea and have also	examination of this nefits under <i>Title 35</i> identified below any
Number		COUNTRY	Day/Month/Yea	R FILED	Priori	TY CLAIMED
					☐ Yes	No
					□ Yes	☐ No
I hereby claim the application(s) designating Tapplication is not disclosed if 112, I acknowledge the occurred between the filing of	he United States n that/those prior uty to disclose n	application(s) in the m naterial information as	ow and, insofar as the anner provided by the to defined in <i>Title 37</i> , C	subject ma first paragra ode of Fed	atter of each of ph of <i>Title 35</i> , eral Regulation	of the claims of this United States Code, ons, § 1 56(a) which
APPLICATION N	UMBER	Filine	G DATE	STATUS	(Patented, Pendi	ng or Abandoned)
belief are believed to be true made are punishable by fine statements may jeopardize th	; and further that or imprisonment the validity of the a RNEY: I (We)	, or both, under Section application or any paten hereby appoint as my	made with the knowled 1001 of Title 18 of the t issued thereon. (our) attorneys, with f	ge that willi United State	ful faise staten es Code, and the of substitution	nents and the like so nat such willful false and revocation, to
Send correspondence to:	JAGTIANI & AS 10379-B Demo Fairfax, Virgini	cracy Lane	Telephone calls to:	Ajay A. Jag (703) 591-2		
		See following pages fo	r additional joint inventors.			
Full Name of First or Sola Inner	of a r		Citizenshin			

Full Name of First or Sole Inventor BURFIELD, Evan G. Residence Address - Street 9852 Fairfax Square #225		Citizenship United States
		Post Office Address Street QED Innovations, 4013 Williamsburg Court
City Fairfax		City Fairfax
State or Country Virginia	Z _{IP} 22031	State or Country Zip Viriginia 22032
Date 10/13/98		SIGNATURE SHELL

DECLARATION . JR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page 2

Full Name of Additional Joint Inventor CHANG, Chia Chen		Cuizenship United States	
Residence Address – Street 804 Lawton Street		Post Office Address Street QED Innovations, 4013 Williamsburg Court	
City McLean		City Fairfax	
State or Country Zip Virginia 22101		State or Country Zip Virginia 22032	
DATE 10/13/98		SIGNATURE ()	

Full Name of Additional Joint Inventor DRISSEL, Mark		Citizenship United States	
Residence Address - Street 6314 Kiteline Court		Post Office Address Street QED Innovations, 4013 Williamsburg Court	
City Columbia		Cuy Fairfax	
State or Country Maryland	Zip 21044	State or Country Virginia	Zip 22032
DATE 10/13/98		SLOWATURE Drisse)

Full Name of Additional Joint Inventor EICHLER, Matthew		Citizenship United States		
Residence Address - Street 2629 Washington Blvd.		Post Office Address Street QED Innovations, 4013 Williamsburg Court		
City Arlington		City Fairfax		
State or Country Virginia	Zip 22201	State or Country Zip Virginia 22032		
DATE 10/13/98		SIGNATURE SIGNATURE		

Full Name of Additional Joint Inventor GARRETT, Richard Residence Address - Street 9852 Fairfax Square #225 City Fairfax		Citizenship United States Post Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax					
				State or Country Zip Virginia 22031		State or Country Zip Virginia 22032	
				DATE 10/13/98		SIGNATURE Rich of Hawall	

See following pages for additional joint inventors.

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page 2

Full Name of Additional Joint Inventor GROAT, Robert Residence Address - Street 45862 Aberdeen Lane City Valley Lee		Citizenship United States Post Office Address Street QED Innovations, 4013 Williamsburg Court		
		State or Country Maryland	Zip 20692	State or Country Virginia
DATE 10/13/98		SIGNATURE STREET OF	Fat be	
10/13/98		Mot fruit ()	2. 2. JE.	
Full Name of Additional Joint In	ventor	Citizenship		

Full Name of Additional Joint Inventor KIPP, Neill Residence Address - Street 319 New Kent Road City Blacksburg		Citizenship United States Post Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax					
				State or Country Zip Virginia 24060		State or Country Zip Virginia 22032	
				DATE 10/13/98		SIGNATURE	

Full Name of Additional Joint Inventor RAPP, Perry Russell Residence Address - Street 48278 Keel Drive City Lexington Park		Citizenship United States	
		Post Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax	
DATE 10/13/98		SIGNATURE	

Full Name of Additional Joint Inventor Residence Address - Street		Citízenship	
		Post Office Address Street	
City		City	
State or Country	Zip	State or Country	Zip
DATE		SIGNATURE	

See following pages for additional joint inventors

P. 1

ATTORNEY DOCKET NO . NIST-XXX-1

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY Page 2

Full Name of Additional John Inventor GROAT, Robert		Chizenthy United States		
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reë Nesse of Additional Loint Inventor KIPP, Neill		Chierophy United States		
Replante Addres – Street 319 New Kent Road		Fost Office Address Street QED Innovations, 4913 Williamsburg Court		
Cky Blacksburg		Cir Fairfax		
State or Country 249 Virginia 24960		State or Country Virginia 22032		
DATE 10/13/98		· SIEMAFIRE / WARY		
		Gatesmahla		
Pall Reme of Additional Joint Inventor RAPP, Party Russell		United States		
Residence Address - Štret 48278 Kool Drivo		Fon Office Address Street QED Innovations, 4013 Williamsburg Court		
csy Lexington Park	•	Ciy Fairfax		
Sins or Country Maryland	24+ 20653	State or Country Zip Virginia 22032		
_{Дита} 10/13/98		SIGNATURE		
Full Name of Additional Joint Instance		Cutenahte		
Residence Address - Screet		Post Office Address Street		
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See following pages for adultional joins inventors

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ATTORNEY DOCKST NO.: NIST-0006-1

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY Page 2

Chizenship Pull Hums of Additional Joint Inventor United States GROAT, Robert Fast Office Address Street Residence Address - Street QED Innovations, 4013 Williamsburg Court 45862 Aberdeen Lane Car Fairfax Valley Les Zip 22032 State or Country *X*17 20692 State or Country Virginia Maryland 10/13/98 Citizenship Pail Name of Additional Intal Inventor United States KIPP, Neill Post Office Address Street Residence Address - Street QED Innovations, 4013 Williamsburg Court 319 New Kent Road City Fairfax Blacksburg Stees or Country Zip 22032 State or Country Virginia Zip 24060 Virginia SICHATURE DATE 10/13/98 Citizenskip Pull Hume of Additional Joint Inventor United States RAPP, Perry Russell Post Office Address Street Zaridence Address - Street QED Innovations, 4013 Williamsburg Court 48278 Keel Drive Cay City Fairfax Lesdogton Park 767 72032 State or Country *‰* 20653 State or Country Virginia Maryland 10/13/98 Cultimatio Fell Name of Additional Tobal Inventor Post Office Address Street Actidence Address - Sirvet City City Steep or Country 2. ZQI SINCE AT COMMENT

Sea following pages for additional joins inventors.

SIGNATURE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
BURFIELD, et al.)	
Serial Number: to be Assigned)	Art Unit:
Filed: Concurrently)	Examiner:
For: Object-Based Numeric Analysis Engine)	

Assistant Commissioner for Patents Washington, D.C. 20231

ASSOCIATE POWER OF ATTORNEY

Sir:

I hereby appoint Mark Guttag, Registration Number 33,057, as my associate attorney in the above-captioned application, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent and to transact all business in the Patent Office connected therewith.

However, please continue to address all future communications to the undersigned attorney at the following:

Ajay A. Jagtiani
JAGTIANI & ASSOCIATES
Democracy Square Business Center
10379-B Democracy Lane
Fairfax, Virginia 22030

Respectfully submitted,

Registration Number 35,205

JAGTIANI & ASSOCIATES
Democracy Square Business Center
10379-B Democracy Lane
Fairfax, Virginia 22030
(703) 591-2664

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I acknowledge the duty to file, in this application or patent, nonfication of any change in status testiling in loss of entitlement to small entity status prior to paying or at the time of paying, the earliest of the issue tee or any maintenance fee due after the fase on small entity status prior to paying or at the time of paying, the earliest of the issue tee or any maintenance fee due after the fase on which status as a small entity as to longer appropriate of CFR 1.25th it

Hereby declare that all statements made therein of my own knowledge are true and that all statements made on information and liber true helicited to be true, and further that these statements were made with the knowledge that willful take statements and the liber of made are punishable by fine or impressiment, or both, under section 1001 or little its or the Cornel States Code, and that such willful take statements may reopardize the validity of the application, any pagent issuing thereon, or any pagent is which the valid of statements may reopardize the validity of the application, any pagent issuing thereon, or any pagent is which the valid statement is the coal.

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The state of the s	

ASSIGNMENT	
WHEREAS, Chia Chen Chang, whose post office address as ASSIGNOR), has invented certain new and useful improved ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for Letters Patent was filed October 15, 1998, Serial Number:	nents in an OBJECT-BASED NUMERIC-
WHEREAS, QED Innovations, whose post office as Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desired interest in and to the same in the United States and throughout the	us of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable consideration acknowledged, we, ASSIGNOR, by these presents do sell, assign entire right, title and interest in and to said invention and application; including any and all United States Letters Patent a continuation-in-part and reissue of said application; and the entire invention throughout the world, including the right to apply for pathereof and to claim priority pursuant to rights accorded Assignment of the continuational Convention and all other available international coright, title and interest in and to any and all patents, patents importation, revalidation patents and inventor certificates which respect of said invention.	and transfer until said ASSIGNEE, the cation throughout the United States of granted on any division, continuation, the right, title and interest in and to said tents and inventor certificates in respect SIGNOR under the terms of the Paris powentions and treaties; and the entire of addition, utility models, patents of
ALSO, Assignor hereby agrees to execute any documentation with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. Assignor also agree Assignee's expense, to identify and communicate to Assignee information concerning the invention that are within Assignor's further assurances and testimony on behalf of Assignee that law respect of the prosecution, maintenance and defense of any pat within the terms of this instrument. Assignor's obligations Assignor's heirs, executors, administrators and other legal representations.	said application or any other patent in foreign countries for said invention, the rights of ASSIGNEE in and to said es, without further consideration and at at ASSIGNEE's request documents and possession or control, and to provide fully may be required of ASSIGNOR in ent application or patent encompassed under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commission any and all United States Letters Patent referred to above to ASSIGN and to the same, for ASSIGNEE'S sole use and behalf, and for representatives and successors, to the full end of the term for which fully and entirely as the same would have been held by ASSIGNOR made. Inventor: Chia Chen Chang Address: 804 Lawton Street McLean, Virginia 22101	NEE of the entire right, title and interest the use and behalf of ASSIGNEE'S legal in such Letters Patent may be granted, as
State of, City/County of,	
Before me personally appeared and saidacknowledges this instrument to be his (her) free act and deed this,	, andday of
	Notary Public
My commission expires:	y

WHEREAS, Matthew Eichler, whose post office addresse as ASSIGNOR), has invented certain new and useful improveme ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for Letters Patent was filed October 15, 1998, Serial Number:	nts in an OBJECT-BASED NUMERIC- which an application for United States
WHEREAS, QED Innovations, whose post office addrairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous interest in and to the same in the United States and throughout the virginian and virginia	s of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable consider acknowledged, we, ASSIGNOR, by these presents do sell, assign entire right, title and interest in and to said invention and applic America, including any and all United States Letters Patent go continuation-in-part and reissue of said application; and the entire invention throughout the world, including the right to apply for pate thereof and to claim priority pursuant to rights accorded ASS International Convention and all other available international coright, title and interest in and to any and all patents, patents of importation, revalidation patents and inventor certificates which mespect of said invention.	and transfer until said ASSIGNEE, the ation throughout the United States of ranted on any division, continuation, eright, title and interest in and to said ents and inventor certificates in respect IGNOR under the terms of the Paris inventions and treaties; and the entire of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any docume connection with the filing, prosecution and maintenance of sapplication(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm to invention, all without further consideration. ASSIGNOR also agree ASSIGNEE's expense, to identify and communicate to ASSIGNEE information concerning the invention that are within ASSIGNOR'S further assurances and testimony on behalf of ASSIGNEE that law respect of the prosecution, maintenance and defense of any pate within the terms of this instrument. ASSIGNOR'S obligations to ASSIGNOR'S heirs, executors, administrators and other legal representations.	said application or any other patent in foreign countries for said invention, the rights of ASSIGNEE in and to said is, without further consideration and at at ASSIGNEE's request documents and possession or control, and to provide fully may be required of ASSIGNOR in an application or patent encompassed under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commission any and all United States Letters Patent referred to above to ASSIGN in and to the same, for ASSIGNEE'S sole use and behalf, and for the representatives and successors, to the full end of the term for which fully and entirely as the same would have been held by ASSIGNOR made.	NEE of the entire right, title and interest he use and behalf of ASSIGNEE'S legal such Letters Patent may be granted, as had this assignment and sale not been
•	Marchelica
Inventor: Matthew Etchief	Signature
7 (d CL C SS)	Date: /0 /15/98
Arlington, Virginia 22201	SSN.: 109-50-5191
	Notarization preferred but not required
State of	·
State of, City/County of,	
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Before me personally appeared and said acknowledges this instrument to be his (her) free act and deed this	day of
	Notary Public
My commission expires:	

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WHEREAS, Mark Drissel, whose post office addresses ASSIGNOR), has invented certain new and useful improvement ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for Letters Patent was filed October 15, 1998, Serial Number:	nts in an OBJECT-BASED NUMERIC- which an application for United States
WHEREAS, QED Innovations, whose post office ac Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desired interest in and to the same in the United States and throughout the	as of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable consideration acknowledged, we, ASSIGNOR, by these presents do sell, assign entire right, title and interest in and to said invention and application; including any and all United States Letters Patent a continuation-in-part and reissue of said application; and the entire invention throughout the world, including the right to apply for pathereof and to claim priority pursuant to rights accorded Assignternational Convention and all other available international coright, title and interest in and to any and all patents, patents importation, revalidation patents and inventor certificates which respect of said invention.	and transfer until said ASSIGNEE, the cation throughout the United States of granted on any division, continuation, re right, title and interest in and to said tents and inventor certificates in respect SIGNOR under the terms of the Paris conventions and treaties; and the entire of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any docur connection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also agree ASSIGNEE's expense, to identify and communicate to ASSIGNOE information concerning the invention that are within ASSIGNOR's further assurances and testimony on behalf of ASSIGNEE that law respect of the prosecution, maintenance and defense of any pat within the terms of this instrument. ASSIGNOR'S obligations ASSIGNOR'S heirs, executors, administrators and other legal representations.	said application or any other patent in foreign countries for said invention, the rights of ASSIGNEE in and to said es, without further consideration and at at ASSIGNEE'S request documents and s possession or control, and to provide fully may be required of ASSIGNOR in tent application or patent encompassed under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commission any and all United States Letters Patent referred to above to ASSIGNEE's sole use and behalf; and for representatives and successors, to the full end of the term for which fully and entirely as the same would have been held by ASSIGNORMADE. Inventor: Mark Drissel Address: 6314 Kiteline Court Columbia, Maryland 21044	oner of Patents and Trademarks to issue GNEE of the entire right, title and interest the use and behalf of ASSIGNEE'S legal h such Letters Patent may be granted, as
State of, City/County of,	
Before me personally appeared and saidacknowledges this instrument to be his (her) free act and deed this	and day of
	Notary Public
My commission expires:	•

Inventor: Richard Corrett

ASSIGNMENT

WHEREAS, Richard Garrett, whose post office addresses appear below (hereinafter referred to as ASSIGNOR), has invented certain new and useful improvements in an OBJECT-BASED NUMERIC-ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for which an application for United States Letters Patent was filed October 15, 1998, Serial Number:

WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Court, Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, title and interest in and to the same in the United States and throughout the world;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.

ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention, including, additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to identify and communicate to ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOR's obligations under this instrument shall extend to ASSIGNOR's heirs, executors, administrators and other legal representatives.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE'S sole use and behalf; and for the use and behalf of ASSIGNEE'S legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

Richard Manett

III office. Included Garrier	
Address: 9852 Fairfax Square #225	Signature
Fairfax, Virginia 22031	Date: OCT. 15, 1998
7 777 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Date: OCT. 15,1998 SSN.: 330-50-9370
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Before me personally appeared and said	. and
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	Notary Public
My commission expires:	

WHEREAS, Robert Groat, whose post office addresses appear below (hereinafter referred to as
ASSIGNOR), has invented certain new and useful improvements in an OBJECT-BASED NUMERIC-
ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for which an application for United States
Letters Patent was filed October 15, 1998, Serial Number:;

WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Court, Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, title and interest in and to the same in the United States and throughout the world;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.

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inventor: Robert Groat Address: 45862 Aberdeen Lane	Signature Just
Valley Lee, Maryland 20692	Date: 6/15/18 SSN.: 2,580 8492 Notarization preferred but not required
State of, City/County of,	•
Before me personally appeared and said	, and
acknowledges this instrument to be his (her) free act and deed this	day oj
My commission expires:	Notary Public

6

WHEREAS, QED innovations, whose post office address is 4013 Williamsburg Court, Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, this and interest in and to the same in the United States and diroughout the world:

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNORE, the entire right, fittle, and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.

ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNOR's expense, to identify and communicate to ASSIGNUE at ASSIGNOR's request documents and information concerning the invention that are within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOR that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOR's obligations under this instrument shall extend to ASSIGNOR's helts, executors, administrators and other legal representatives.

Assiched hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to Assiched of the entire right, title and interest in and to the same, for Assiched sole use and behalf, and for the use and behalf of Assiched legal representatives and successors, to the full and of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by Assichor had this assignment and sale not bear made.

NOW HOLD WITH AN SAFETY OF THE WAY OF
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Date: 10/15/99 SSN:: 260-26-0637 Notatization preferred but not require
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thisday
Notary Public

ASSIGNMENT

WILEREAS, Perry Russell Rapp, whose post office addresses appear below (hereinafter referred to as ASSIGNOR), has invented certain new and useful improvements in an OBJECT-BASED NUMERIC-ANALYSIS ENGINE (hereinafter referred to as THE INVANTION) for which an application for United States Letters Patent was filed October 15, 1998, Serial Number:

WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Court, Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, title and interest in and to the same in the United States and throughout the world,

NOW. THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and relissue of said application; and the entire right, title and interest in and to said invention shroughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and all other available international conventions, utility models, parents of importation, revalidation patents and invantor certificates which may be granted throughout the world in respect of said invention.

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Before me personally appeared and said
acknowledges this instrument to be his (har) free uct and deed this

My commission expires:

acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation-in-part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention. ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filling, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOR's holiations under this instrument shall extend to ASSIGNOR's heirs, executors, administrators and other legal representatives. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNOR h	ASSIGNMENT	
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State of, City/County of, Before me personally appeared and said, and	Address: 9852 Fairfax Square #225	Date: 10 15 98 SSN.: 228-23-9500
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